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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,825	02/20/2002	Alan R. Larsen	14127	3082

7590

08/13/2003

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EXAMINER

TO, TOAN C

ART UNIT

PAPER NUMBER

3616

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,825

Applicant(s)

LARSEN ET AL.

Examiner

Toan C To

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-43 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,9-16,19,20,22 and 23 is/are rejected.
- 7) ☒ Claim(s) 3, 6-8, 17, 21, 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claim 18 is objected to because of the following informalities:

Claim 18 recites the limitation "the covering" in line 1. There is insufficient antecedent basis for this limitation in the claim. It appears that claim 18 depends on claim 17 instead of claim 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4, 12-16, and 18-20, and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Gest (U.S. 5,562,304).

Gest discloses an airbag inflator with the following: a housing (12) having a first and second ends, wherein the housing (12) comprising corrugated material (90); a first end cap (28) attached to the first end of the housing, a second end cap (80) attached to the second end of the housing; combustible material (50) positioned within the housing, the material capable of generating inflation fluid upon ignition; an initiator (36) in communication with the combustible material for initiating a combustible reaction with in the housing.

With respect to claim 4, Gest discloses an airbag inflator, wherein the housing (12), the first end cap (28) and the second end cap (80) comprising a pressure vessel.

With respect to claim 5, Gest discloses an airbag inflator having housing, wherein the housing (12) comprising steel (see column 9, line 28).

With respect to claims 12-15, Gest discloses an airbag inflator, wherein the combustible material (50) is substantially enclosed by a membrane (92), and the membrane defining a combustion chamber; wherein the membrane (92, 170) comprising an environmental seal/metalized film; and the membrane (90, 170) is configured to expand and burst at a predetermined breakout pressure created by the inflation fluid (see column 9, lines 5-12).

With respect to claim 16, Gest discloses an airbag inflator, wherein the housing (12) is detached from the membrane (92, 170).

With respect to claims 19-20, Gest discloses an airbag inflator, wherein the first and second end caps (28, 80) are each secured to the housing by a weld ring (34, 84), and by a crimp sleeve (26, 16).

With respect to claims 22-23, Gest discloses an airbag inflator wherein the initiator (36) is squib, wherein the squib is integral with one of the first end cap (28).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gest in view of Walker et al (U.S. 5,845,933).

Gest discloses every element of the invention as discussed above except that the housing is flexible.

Walker et al teaches the invention wherein the housing (12) is flexible (the claim broadly recites the housing is flexible but does not recite the degree of flexibility of the housing, therefore, the aluminum housing is considered to flex at some degrees upon application of force).

It would have been obvious design choice to one having ordinary skill in the art at the time the invention was made to make the housing as disclosed by Gest by aluminum material as taught by Walker et al in order to reduce weight of the inflator such that installation of the inflator within the vehicle would be more easy.

With respect to claim 9, Gest does not directly disclose the inflator, wherein the first and second end caps are steel. It would have been obvious design choice for one having ordinary skill in the art at the time the invention was made to make the first and second end caps as disclosed by Gest by steel material in order to provide safety protection for occupant, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gest in view of Jenkins et al (U.S. 6,099,033).

Gest discloses every element of the invention as discussed above but fail to directly disclose what type of material was made for the housing, such as the housing was made by steel.

Jenkins et al teaches the invention wherein the housing is steel.

It would have been obvious design choice for one having ordinary skill in the art at the time the invention was made to make the housing as disclosed by Gest by steel material as taught by Jenkins et al in order to provide an inflator that capable of withstanding high pressure gas therein. Further, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

7. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gest in view of Siddiqui et al (U.S. 6,095,561).

Gest discloses every element of the invention as discussed above except that the combustible material comprising combustible solid fuel tablets coated with an ignition enhancer.

Siddiqui et al teaches the invention wherein the combustible solid fuel tablets (42, 44) coated with an ignition enhancer.

It would have been obvious design choice for one having ordinary skill in the art at the time the invention was made to modify the inflator of Gest by as taught by Siddiqui et al to include: combustible material comprising combustible solid fuel tablets coated with an ignition enhancer in order to protect safety of occupant.

With respect to claim 11, Gest discloses the claimed invention except for the combustible material comprises stored inert gas. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the inflator of Gest by using the inert gas for the combustible material in order to protect occupant, since it has been held to be within the general skill of a worker in the art to select a know material on the basis of its suitability for the intended use as a matter of obvious design choice.

Allowable Subject Matter

8. Claims 3, 6-8, 17, 21, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claim 18 would be allowable if rewritten to overcome the objection as indicated above, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. Claims 25-43 are allowed.

With respect to claim 25, neither the prior art references alone nor in combination discloses or suggest an inflator particularly comprising: a flexible housing, wherein the housing comprising corrugated material, the corrugated housing being perforated with exit ports thereby allowing the inflation fluid with in the housing to escape from the housing. These structures in combination with other structures as recited in claim 25 define over prior art of record.

With respect to claim 43, neither the prior art references alone nor in combination discloses or suggest an inflator particularly comprising: a flexible housing, a wire mesh covering positioned about the housing, the covering having a first end attached to the first end cap and second end attached to the second end cap. These structures in combination with other structures as recited in claim 43 define over prior art of record.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure includes the following: Chan et al (U.S. 5,411,290), Wagner (U.S. 3,944,769), Doin et al (U.S. 3,813,007), and Bender (U.S. 5,028,070) disclose an airbag inflator comprising a housing having first and second ends, a combustible material being disposed inside the housing for generating inflation gas upon ignition of initiator. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan To whose telephone number is (703) 306-5951. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson, can be reached on (703) 308-2089. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-2571. Any inquiry of a general nature or relating to the status of this application or this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-1113.

To, T

August 11, 2003